Break-even point (BEP)

The break-even point is defined as the point where sales or revenues equal expenses. There is no profit made or loss incurred at the break-even point. This figure is important for anyone that manages a business since the break-even point is the lower limit of profit when setting prices and determining margins. Obviously the break-even point becomes very important when calculating a strategy for net profit.

Break-Even Is the Volume Where All Fixed Expenses Are Covered

Virtually all of your business's costs will fall, more or less neatly, into one of two categories:

- "Fixed costs," which remain the same regardless of your level of sales. Depending on your type of business, some typical examples would be rent, interest on debt, insurance, plant and equipment expenses, business licenses, and salary of permanent full-time workers.

- "Variable costs," which increase directly in proportion to the level of sales in dollars or units sold. Depending on your type of business, some examples would be cost of goods sold, sales commissions, shipping charges, delivery charges, costs of direct materials or supplies, wages of part-time or temporary employees, and sales or production bonuses.

Combination costs. Some costs are a combination of fixed and variable: a certain minimum level will be incurred regardless of your sales levels, but the costs rise as your volume increases. As an analogy, think about your phone bill: you probably pay an access or line charge that is the same each month, and you probably also pay a charge based on the volume of calls you make. Strictly speaking, these costs should be separated into their fixed and variable components, but that may be more trouble than it's worth for a small business. To simplify things, just decide which type of cost (fixed or variable) is the most important for the particular item, and then classify the whole item according to the more important characteristic. For example, in a telemarketing business, if your phone call volume charges are normally greater than your line access charges, you'd classify the entire bill as variable.

Relevant range of activity. It's important to realize that fixed costs are "fixed" only within a certain range of activity or over a certain period of time. For example, your rent is a constant amount per month — until your landlord raises it at the end of the year — unless you go out of business completely, in which case it would drop to zero, or unless your sales increase to the point where you need to rent an additional workplace, in which case it might double. So BEP analysis is only valid within a certain range of sales (generally, this coincides with the range that could reasonably be expected for your business) — at the extreme high and extreme low ends of the range, or if enough time passes, all costs become variable.

Cost per unit or job. If you add up all your variable costs for the accounting period, and divide by the number of units sold, you will arrive at the cost per unit. This cost should remain constant, regardless of how few or how many units you sell. If yours is a service business, you may be able to divide your variable costs by the number of jobs performed (if the jobs are essentially similar) or by the hours spent on all jobs (if the jobs vary greatly in size).

Your breakeven point can be determined by using the following formulas:

- Sales Price per Unit — Variable Costs per Unit = Contribution Margin per Unit.
- Contribution Margin per Unit divided by Sales Price per Unit = Contribution Margin Ratio.
- Breakeven Sales Volume = Fixed Costs divided by Contribution Margin Ratio

BEP = fixed costs / ( price – variable cost per unit )

Unit of measure: piece, kg, l, sq. meter
Ways to Lower Break-Even
There are three ways to lower your break-even volume, only two of them involve cost controls (which
should always be your goal on an ongoing basis).
1. Lower direct costs, which will raise the gross margin. Be more diligent about purchasing material,
controlling inventory, or increasing the productivity of your labor by more cost effective scheduling or
adding more efficient technology.
2. Exercise cost controls on your fixed expense, and lower the necessary total dollars. Be careful when
cutting expenses that you do so with an overall plan in mind. You can cut too deeply as well as too little
and cause distress among workers, or you may pull back marketing efforts at the wrong time, which will
give out the wrong signal.
3. Raise prices! Most entrepreneurs are reluctant to raise prices because they think that overall
business will fall off. More often than not that doesn’t happen unless you are in a very price-sensitive
market, and if you are, you really have already become volume driven.
But if you are in the typical niche-type small business, you can raise your prices 4 to 5 percent without
much notice of your customers.

The Goal Is Profit
You are in business to make a profit not just break even, but by knowing where that number is, you can
accomplish a good bit:
• You can allocate the sales and marketing effort to get you to the point you need to be.
• Most companies have slow months, so if you project volume below break-even, you can watch
expenses to minimize losses. A few really bad months can wipe out a good bit of previous profit.
• Knowing the elements of break-even allows you to manage the costs to maximize the bottom line.
Once you have gotten this far in the knowledge of the elements of your business, you are well on your
way to success.

Example

Lillian’s Bakery
Assume that the financial statements for Lillian’s Bakery reveal that the bakery's fixed costs are
$49,000, and its variable costs per unit of production (loaf of raisin coffee cake) are $.30.
Further assume that its sales revenue is $1.00 per loaf. From this information, it can be determined that,
after the $.30 per loaf variable costs are covered, each loaf sold can contribute $.70 toward covering
fixed costs.
Dividing fixed costs by the contribution to those costs per unit of sales tells Lillian’s Bakery at what level
of sales it will break even. In this case: $49,000/$.70 = 70,000 loaves.
As sales exceed 70,000 loaves, Lillian’s Bakery earns a profit. Sales of less than 70,000 loaves produce
a loss.
Lillian's Bakery can see that a 10,000 loaf increase in sales over the breakeven point to 80,000 loaves
will produce a $7,000 profit, and a 30,000 loaf increase to 100,000 will produce a $21,000 profit. On the
other hand, a decline in sales of 10,000 loaves from breakeven to 60,000 loaves will produce a loss of
$7,000, and a 30,000 decrease from the 70,000 breakeven point produces a $21,000 loss.

In the example above, a 25 percent increase in sales from 80,000 loaves to 100,000 loaves would
produce an increase in profits from $7,000 to $21,000. Similarly, a small drop in sales below breakeven
would produce a substantial increase in loss.

Sources: